The following is a complete listing of all claims in the application, with an indication of the status of each:

Listing of claims:

1 (Currently amended). ~~An~~ A computer-implemented auction method for holding an auction for a product comprising the steps of:

receiving bids from at least one computer or from multiple computers within a network of computers, for each product type of multiple product types in a transaction, that include minimum desired volumes and maximum desired volumes and evaluation prices for said product;

generating, using computing resources, a finite set of bids that include as an element said bids that were received from said at least one computer or from multiple computers within said network of computers; ~~and~~

employing dynamic programming using said computing resources to generate, using said ~~bid set~~ bids that were received in said receiving bids step, a subset of bids wherein ~~the~~ a maximum gain is obtained within a range represented by ~~the~~ a count of said product available for sale; and

identifying or accepting a bid from said subset of bids.

2 (Original). The auction method according to claim 1, wherein said evaluation prices for said product are represented as a non-linear function relative to the desired volume of said product type in said transaction.

3 (Currently amended). The auction method according to claim 1, further comprising the steps of:

allocating a two-dimensional array V to a memory area by using said dynamic programming using said computing resources;

initializing said two-dimensional array V; and

recursively solving the recursive equation for said two-dimensional array V, wherein

$$V(k, j) := \max\{V(k+1, j), V(k, j+1), \max_{1 \le x \le h_k}\{V(k+1, j+x)+e_k(x)\}\}$$

is used as the recursive equation, where V(k, j) denotes said two-dimensional array V populated with said evaluation prices; where k denotes an integer equal to or greater than 1 and equal to or smaller than n; j denotes an integer equal to or greater than 0 and equal to or smaller than s; n denotes the number of bids; s denotes the number of products available for the transaction; e_k denotes the evaluation price when x units of products are purchased according to the bid b_k; l_k denotes the minimum volume of the bid b_k; and h_k denotes the maximum volume of the bid b_k.

4 (Original). The auction method according to claim 3, wherein a bid according to which said product is optimally distributed is selected by back tracking of said two-dimensional array V from the element on the smallest row and in the smallest column.

5 (Currently amended). The auction method according to claim 1, further comprising:

allocating two-dimensional arrays V and Q to a memory area by using said dynamic programming;

initializing said two-dimensional arrays V and Q; and

recursively solving recursive equations for said two-dimensional arrays V and Q using said computing resources,

wherein said evaluation prices for said product represent a linear function relative to the volumes for said product desired for said transaction, and

wherein

$$V(k,j):=\left\{\begin{array}{c} V(k+1,j) \\ V(k,j+1) \\ V(k,j+1)+e_k \quad if\, 1k \le Q(k,j+1) < h_k) \\ V(k+1,j+1_k)+e_k 1_k \end{array}\right\}$$

$$Q(k,j):=\left\{\begin{array}{cc} Q(k,j+1)+1 & (if\ V(k,j)=V(k,j+1)+e_k \\ 1_k & (if\ (k,j)=V(k+1,j+1_k)+e_k 1_k \\ Q(k,j+1) & (if\ V(k,j)=Vk,j+1) \\ 0 & (otherwise) \end{array}\right\}$$

is employed as said recursive equation, where V(k, j) denotes said two-dimensional array V populated with said evaluation prices; where Q (k , j) denotes said two-dimensional array Q populated with said count of said product available for sale; where k denotes an integer equal to or greater than 1 and equal to or smaller than n; j denotes an integer equal to or greater than 0 and equal to or smaller than s; n denotes the number of bids; s denotes the number of products available for the transaction; e_k denotes the evaluation price when x units of products are purchased according to the bid b_k; l_k denotes the minimum volume of the bid b_k; and h_k denotes the maximum volume of the bid b_k.

6 (Original). The auction method according to claim 5, wherein a bid according to which said product is optimally distributed is selected by back tracking of said two-dimensional array V from the element on the smallest row and in the smallest-column.

7-12. Canceled

13 (Currently amended). An auction system of computing resources for holding an auction for a product comprising:

means for receiving bids from at least one computer or from multiple computers within a network of computers, for each product type of multiple product types in a transaction, that include minimum desired volumes and maximum desired volumes and evaluation prices for said product;

means for generating, using computing resources, a finite set of bids that include as an element said bids that were received from at least one computer or from multiple computers within said network of computers; ~~and~~

means for employing dynamic programming using said computing resources to generate, using said ~~bid set~~ bids that were received from said at least one computer or from multiple computers within said network of computers, a subset of bids wherein ~~the~~ a maximum gain is obtained within a range represented by ~~the~~ a count of said product available for sale; and

means for identifying or accepting a bid from said subset of bids.

14 (Original). The auction system according to claim 13, wherein said evaluation prices for said product are represented as a non-linear function relative to the desired volume of said product type in said transaction.

15 (Currently amended). The auction system according to claim 13, further comprising:

means for allocating a two-dimensional array V to a memory area by using said dynamic programming using said computing resources;

means for initializing said two-dimensional array V;

and recursively solving the recursive equation for said two-dimensional array V, wherein

$V(k, j) := \max\{V(k+1, j), V(k, j+1), \max_{1 \le n \le hk}\{V(k+1, j+x)+e_k(x)\}\}$

is used as the recursive equation, where V(k, j) denotes said two-dimensional array V populated with said evaluation prices; where Q (k , j) denotes said two-dimensional array Q populated with said count of said product available for sale; where k denotes an integer equal to or greater than 1 and equal to or smaller than n; j denotes an integer equal to or greater than 0 and equal to or smaller than s; n denotes the number of bids; s denotes the number of products available for the transaction; e_k denotes the evaluation price when x units of products are purchased according to the bid b_k; l_k denotes the minimum volume of the bid b_k; and h_k denotes the maximum volume of the bid b_k.

16 (Original). The auction system according to claim 15, further comprising:

means for selecting a bid according to which said product is optimally distributed by back tracking of said two-dimensional array V from the element on the smallest row and in the smallest column.

17 (Currently amended). The auction system according to claim 13, further comprising:

means for allocating two-dimensional arrays V and Q to a memory area by using said dynamic programming using said computing resources;

means for initializing said two-dimensional arrays V and Q;

and means for recursively solving recursive equations for said two-dimensional arrays V and Q, wherein said evaluation prices for said product represent a linear function relative to the volumes for said product desired for said transaction, and

wherein

$$V(k,j):=\left\{\begin{array}{cc} V(k+1,j) & \\ V(k,j+1) & \\ V(k,j+1)+e_k & if\ 1k \le Q(k,j+1) < h_k) \\ V(k+1,j+1_k)+e_k 1_k & \end{array}\right\}$$

$$Q(k,j):=\left\{\begin{array}{cc} Q(k,j+1)+1 & (if\ V(k,j)=V(k,j+1)+e_k \\ 1_k & (if\ (k,j)=V(k+1,j+1_k)+e_k 1_k \\ Q(k,j+1) & (if\ V(k,j)=Vk,j+1) \\ 0 & (otherwise) \end{array}\right\}$$

is employed as said recursive equation, where V(k, j) denotes said two-dimensional array V populated with said evaluation prices; where Q (k , j) denotes said two-dimensional array Q populated with said count of said product available for sale; where k denotes an integer equal to or greater than 1 and equal to or smaller than n; j denotes an integer equal to or greater than 0 and equal to or smaller than s; n denotes the number of bids; s denotes the number of products available for the transaction; e_k denotes the evaluation price when x units of products are purchased according to the bid b_k; l_k denotes the minimum volume of the bid b_k; and h_k denotes the maximum volume of the bid b_k.

18 (Original). The auction system according to claim 17, wherein a bid according to which said product is optimally distributed is selected by back tracking of said

two-dimensional array V from the element on the smallest row and in the smallest column.

19-24. Canceled

25 (Currently amended). A computer-readable storage medium on which a program for holding an auction for a product is stored, said program ~~permitting~~ enabling ~~a computer~~ computing resources to perform:

a ~~function~~ process for receiving bids from at least one computer or from multiple computers within a network of computers, for each product type of multiple product types in a transaction, that include minimum desired volumes and maximum desired volumes and evaluation prices for said product;

a ~~function~~ process for generating, using computing resources, a finite set of bids that include as an element said bids that were received from said at least one computer or from multiple computers within said network of computers; ~~and~~

a ~~function~~ process for employing dynamic programming using said computing resources to generate, using said ~~bid set~~ that were received while using said process for receiving bids, a subset of bids wherein ~~the~~ a maximum gain is obtained within a range represented by ~~the~~ a count of said product available for sale; and

a process for identifying or accepting a bid from said subset of bids.

26. Canceled

27 (Currently amended). ~~An~~ A computer-implemented auction method for holding an auction for a product comprising the steps of:

receiving bids from at least one computer or from multiple computers within a network of computers, for each product type of multiple product types in a transaction, that include a condition concerning said product;

generating, using computing resources, a finite set of bids that include as an element said bids that were received from said at least one computer or from multiple computers within said network of computers; ~~and~~

employing dynamic programming using said computing resources to generate, using said ~~bid set~~ bids that were received in said receiving bids step, a subset of bids wherein ~~the~~ a maximum gain is obtained within a range represented by ~~the~~ a count of said product available for sale; and

identifying or accepting a bid from said subset of bids.